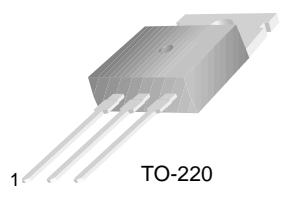




TIP125/126/127

Medium Power Linear Switching Applications

- Complementary to TIP120/121/122



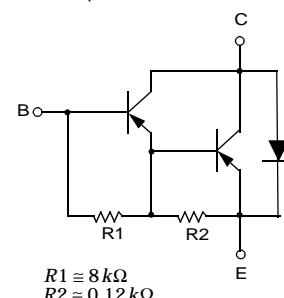
1 Base, 3 Collector, 3 Emitter

PNP Epitaxial Darlington Transistor

Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage : TIP125	- 60	V
	: TIP126	- 80	V
	: TIP127	- 100	V
V_{CEO}	Collector-Emitter Voltage : TIP125	- 60	V
	: TIP126	- 80	V
	: TIP127	- 100	V
V_{EBO}	Emitter-Base Voltage	- 5	V
I_C	Collector Current (DC)	- 5	A
I_{CP}	Collector Current (Pulse)	- 8	A
I_B	Base Current (DC)	- 120	mA
P_C	Collector Dissipation ($T_a=25^\circ C$)	2	W
	Collector Dissipation ($T_C=25^\circ C$)	65	W
T_J	Junction Temperature	150	$^\circ C$
T_{STG}	Storage Temperature	- 65 ~ 150	$^\circ C$

Equivalent Circuit



Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
$V_{CEO(sus)}$	Collector-Emitter Sustaining Voltage : TIP125 : TIP126 : TIP127	$I_C = -100mA, I_B = 0$	-60 -80 -120		V V V
I_{CEO}	Collector Cut-off Current : TIP125 : TIP126 : TIP127	$V_{CE} = -30V, I_B = 0$ $V_{CE} = -40V, I_B = 0$ $V_{CE} = -50V, I_B = 0$		-2 -2 -2	mA mA mA
I_{CBO}	Collector Cut-off Current : TIP125 : TIP126 : TIP127	$V_{CB} = -60V, I_E = 0$ $V_{CB} = -80V, I_E = 0$ $V_{CB} = -100V, I_E = 0$		-1 -1 -1	mA mA mA
I_{EBO}	Emitter Cut-off Current	$V_{BE} = -5V, I_C = 0$		-2	mA
h_{FE}	* DC Current Gain	$V_{CE} = -3V, I_C = 0.5A$ $V_{CE} = -3V, I_C = -3A$	1000 1000		
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = -3A, I_B = -12mA$ $I_C = -5A, I_B = -20mA$		-2 -4	V V
$V_{BE(on)}$	* Base-Emitter ON Voltage	$V_{CE} = -3V, I_C = -3A$		-2.5	V
C_{ob}	Output Capacitance	$V_{CB} = -10V, I_E = 0, f = 0.1MHz$		300	pF

* Pulse Test : PW≤300μs, Duty cycle ≤2%

Typical Characteristics

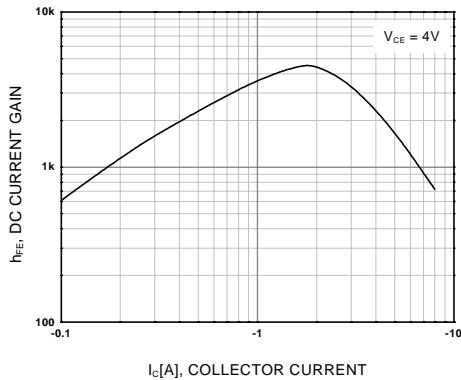


Figure 1. DC current Gain

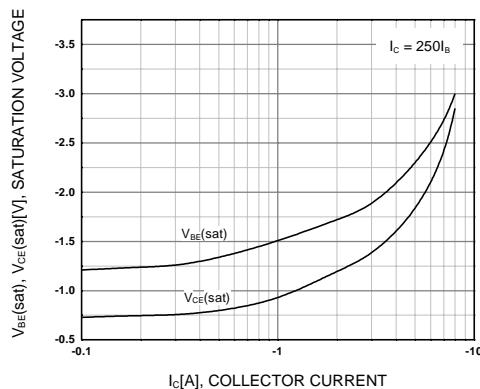


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

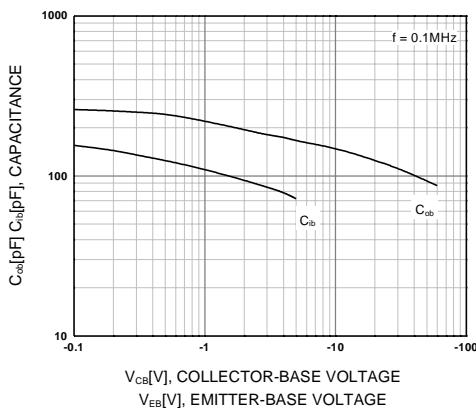


Figure 3. Output and Input Capacitance
vs. Reverse Voltage

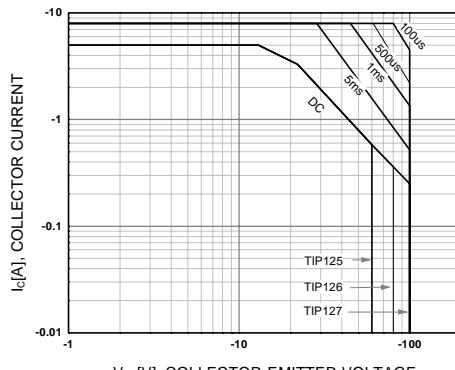


Figure 4. Safe Operating Area

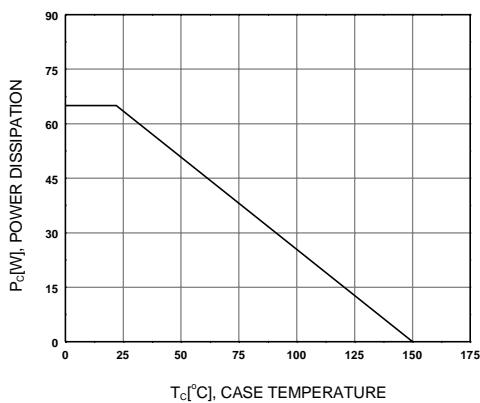
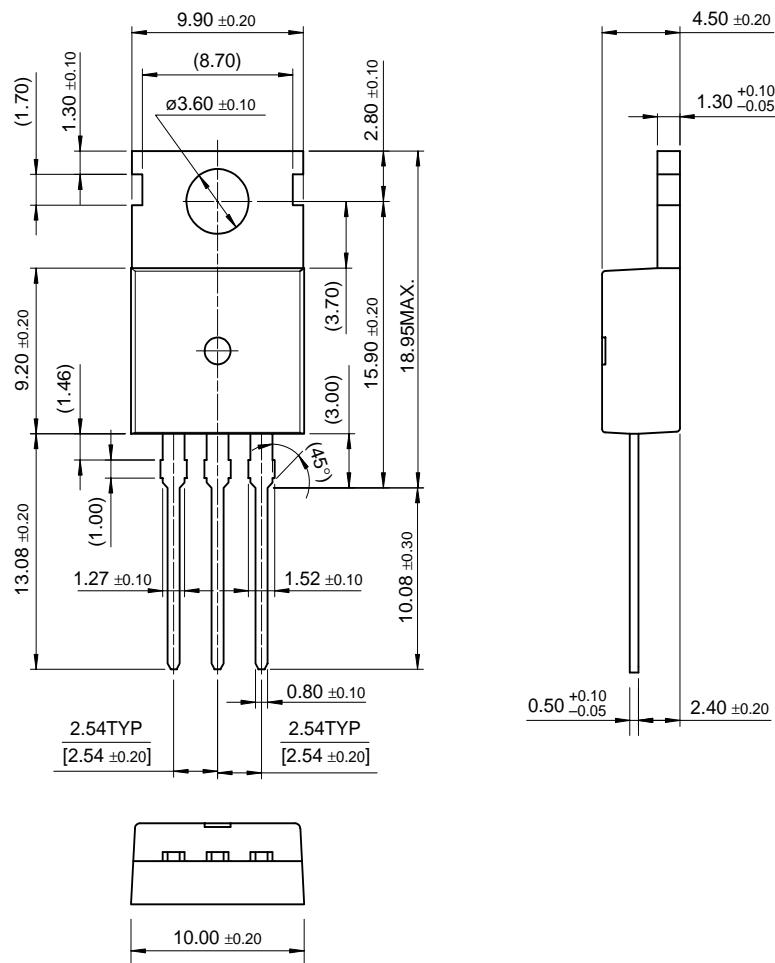


Figure 5. Power Derating

Package Demensions

TO-220



Dimensions in Millimeters

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